

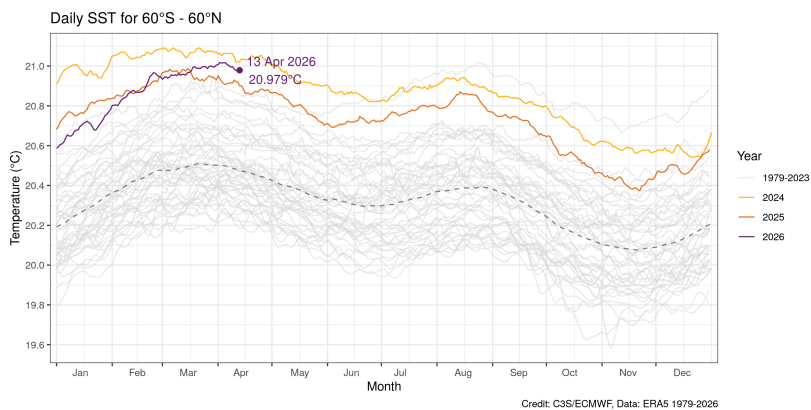
Bass Strait Scallop Fishery



April 17, 2026

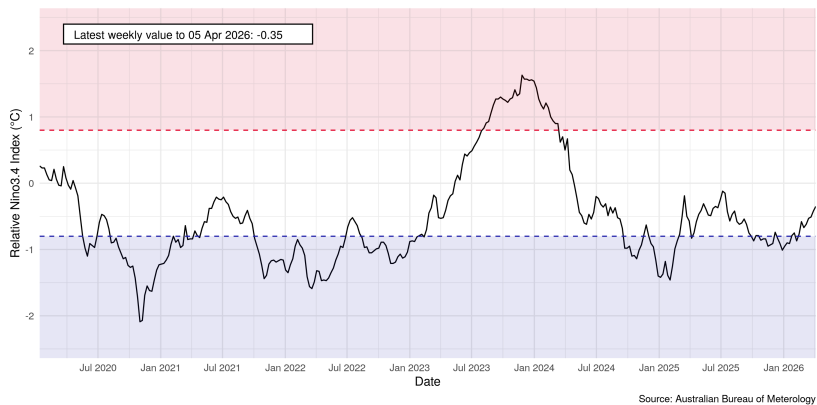
Historical Period

Climate Drivers: Sea Surface Temperature (SST)



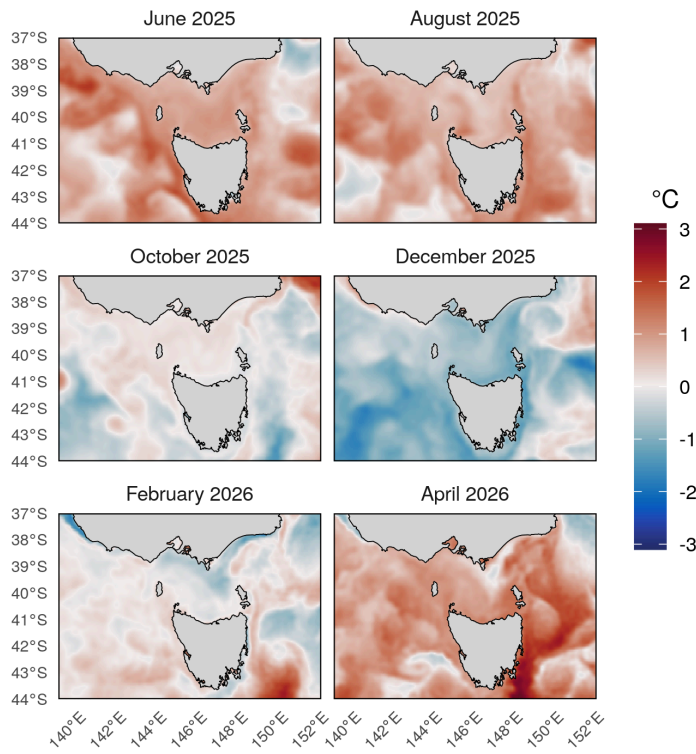
Global Sea Surface Temperatures (SST) from 2024-2026 have been at record highs (*Copernicus*)¹.

Climate Drivers: Nino3.4



ENSO is currently neutral. La Nina conditions occurred over the 2025/26 summer (*BOM*)².

Regional Dynamics: SST Anomaly

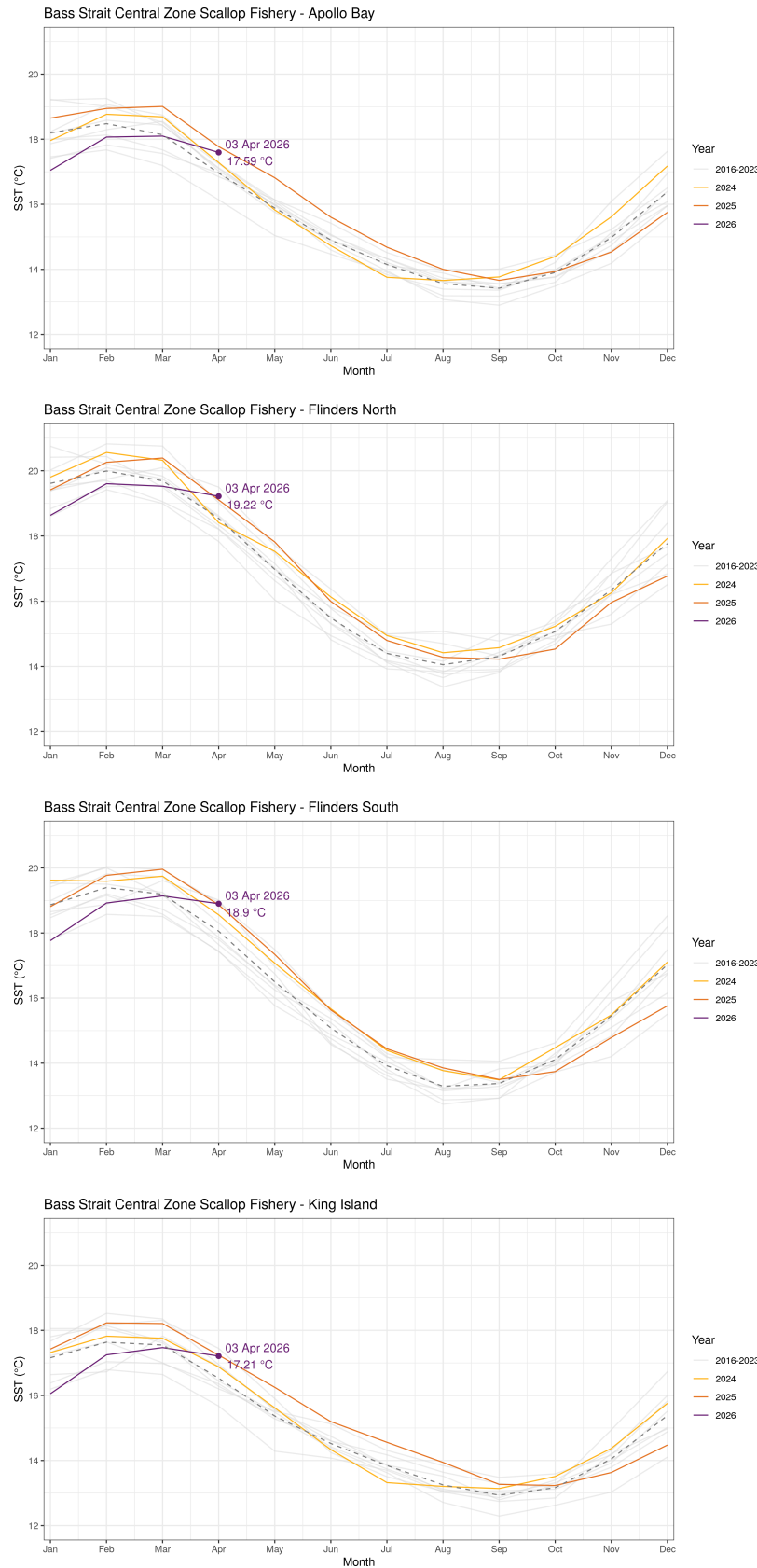


Source: CMEMS, Climatology: 1981-2022

Bi-monthly maps of SST anomalies of the Bass Strait.

Temperatures over Jun-Aug were above average, then changed to average or below-average during Dec. Current observations of April show the strait is anomalously warm³.

Regional Dynamics: SST monthly timeseries



Timeseries of monthly averaged SST for example years 2016-2026 in four regions³:

Apollo Bay region (NW strait):

- Mar-Aug 2025 was the warmest of the 10 year period.
- Jan-Mar 2026 switched from being cooler in Jan, to being average in March

Flinders North region (NE strait):

- Temperatures in this region have been similar to those seen over the past 10 years

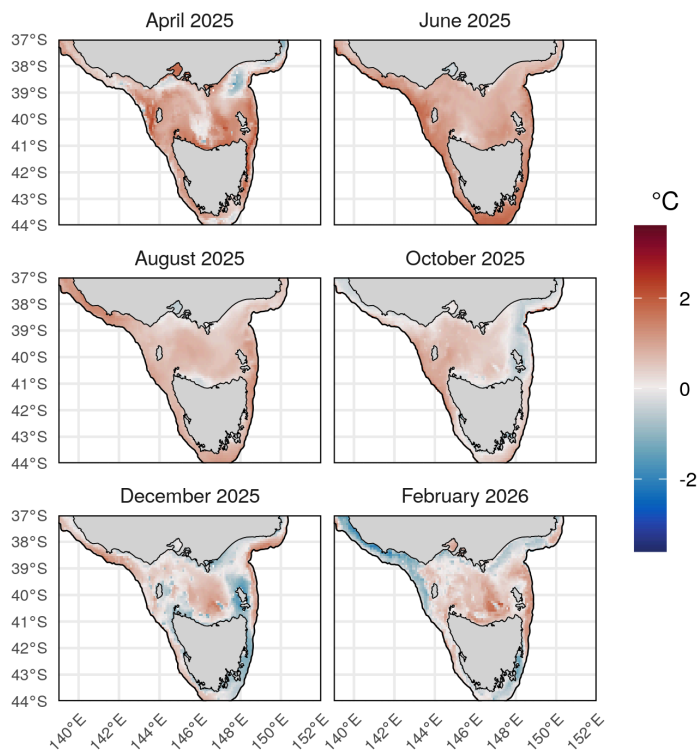
Flinders South region (SE strait):

- Temperatures in this region have been similar to those seen over the past 10 years

King Island region (SW strait):

- May-Aug 2025 was the warmest of the 10 year period
- Jan 2026 was the coolest of the 10 year period

Regional Dynamics: Bottom Temperature Anomaly



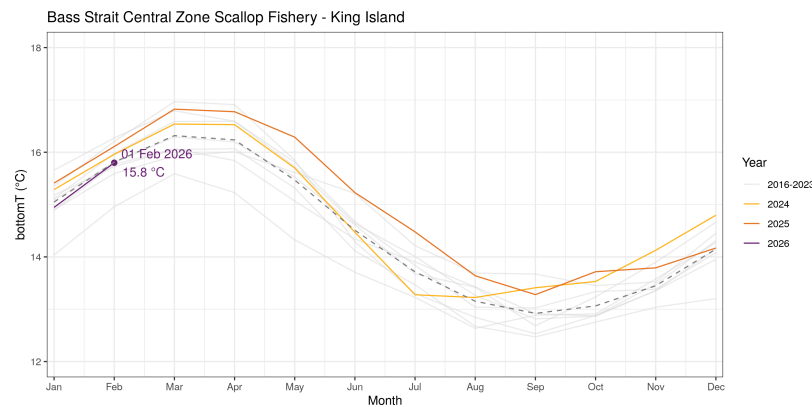
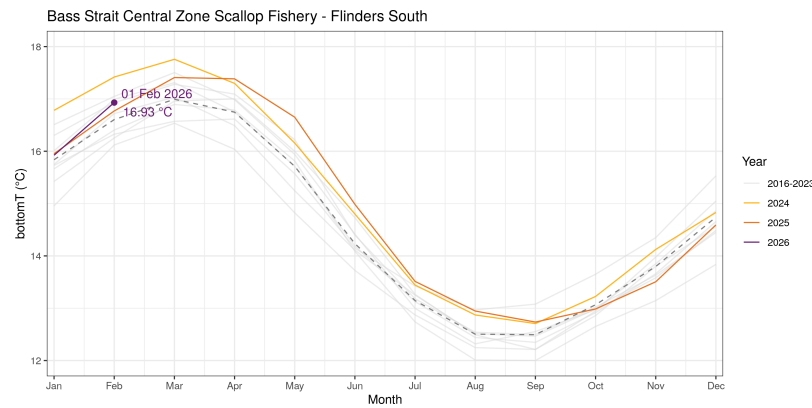
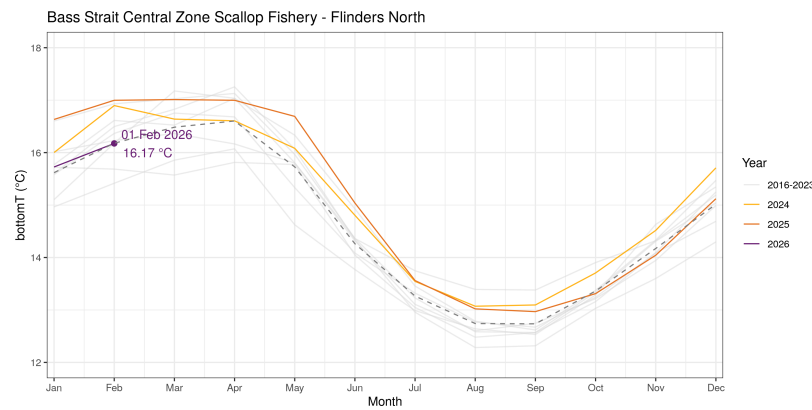
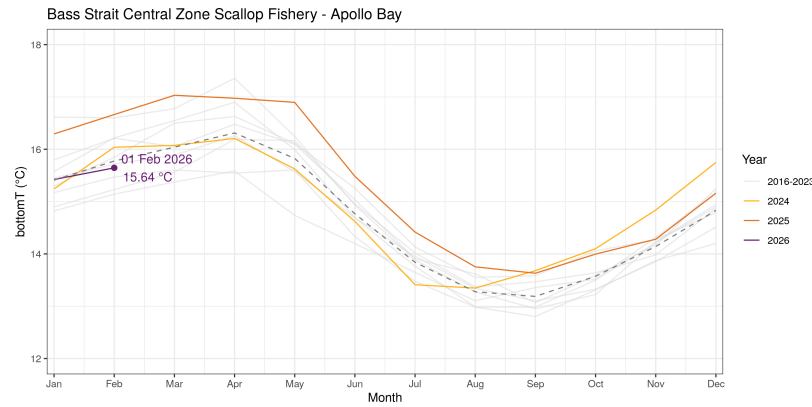
Source: CMEMS, Climatology: 1993-2016

Bi-monthly maps of bottom temperature anomalies relative to 1993-2016 with the 500 m contour shown in black³. Anomalies are from an ocean model and subject to error.

Bottom temperatures were above average for most of the domain over the past year.

Notable exceptions include patches of anomalously cool waters along the eastern region in October, near Flinders and King islands in December, and in the western region in February.

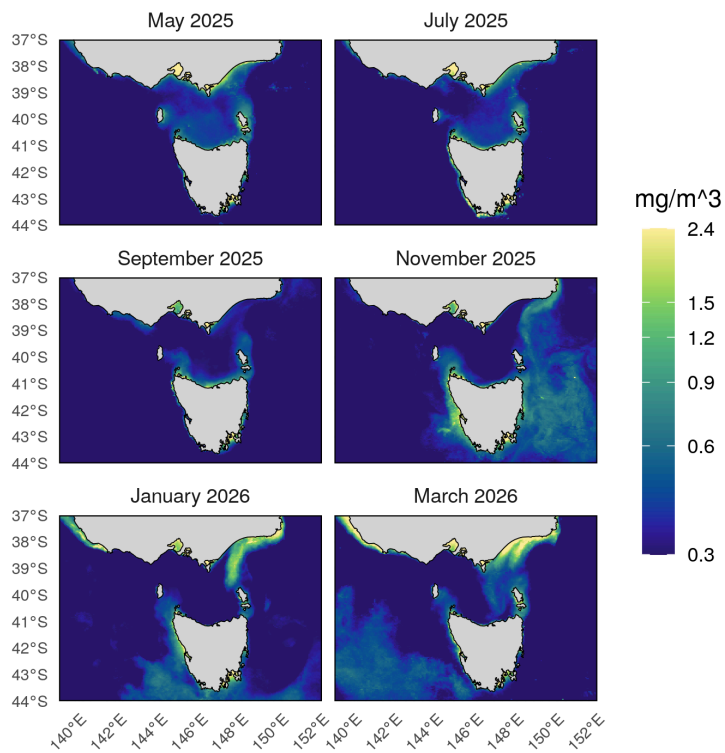
Regional Dynamics: Bottom temperature monthly timeseries



Timeseries of monthly averaged bottom temperatures for example years 2016-2026 in four regions³:

- May-Aug 2025 was the warmest of the 10 year period for most of the regions.
- Jan-Feb 2026 were average temperatures.

Regional Dynamics: Chlorophyll-a



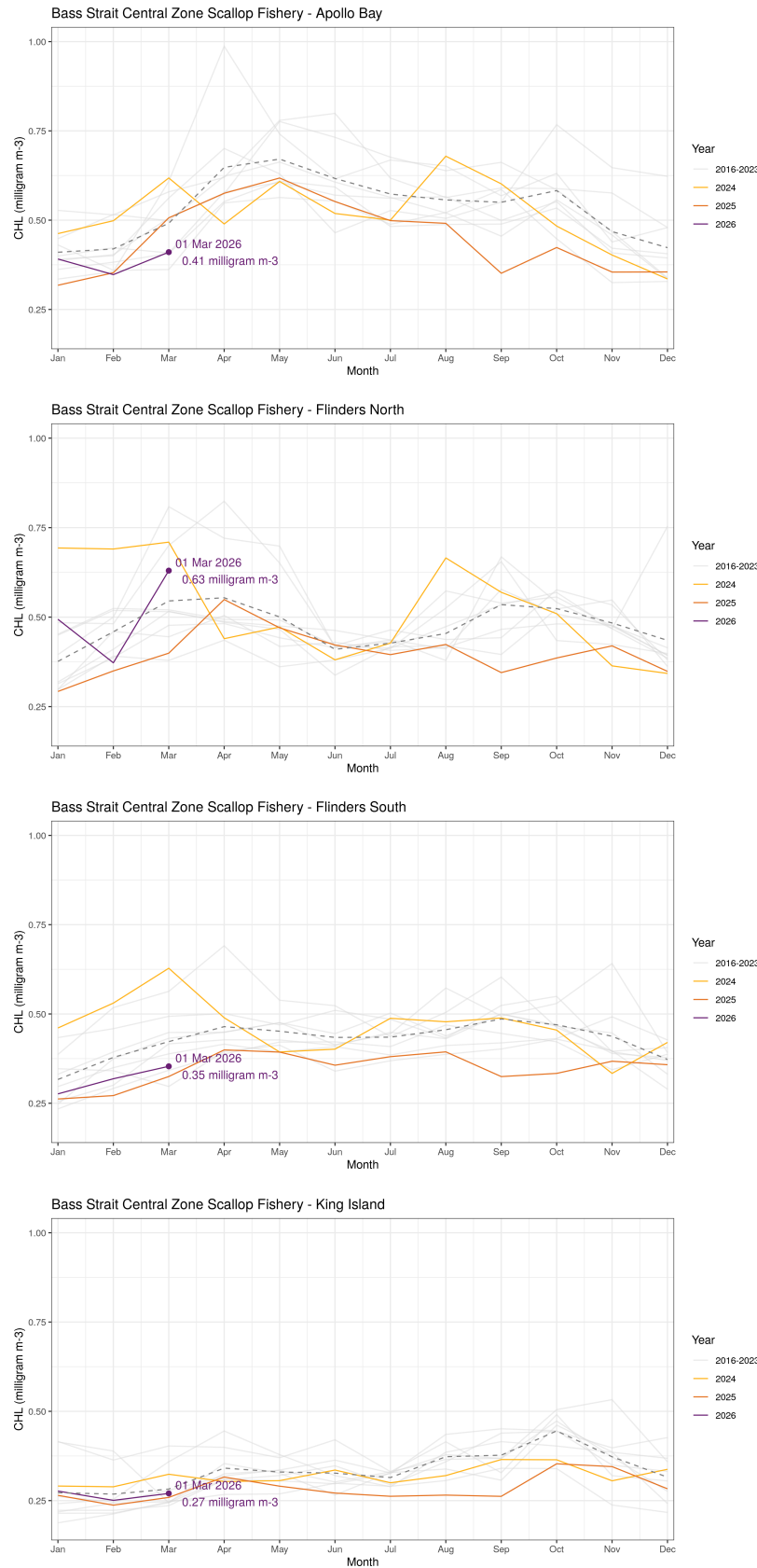
Source: CMEMS

Bi-monthly maps of surface chlorophyll-a (log scale; mg/m³).

Surface chl-a is a proxy for ecosystem productivity (i.e. the food available for scallops).

Higher chl-a along the coastal margin and continental shelf. Large blooms evident offshore in Nov-Mar.

Regional Dynamics: Chl-a monthly timeseries



Timeseries of monthly averaged chl-a for example years 2016-2026 in four regions³.

- In all four regions during winter-spring, chl-a was lower than most previous years. The King Island region had an increase in October, indicating the spring bloom.
- Chl-a values during Jan-Mar 2026 are within the spread of values seen over the past 10 years.

While the scallop spawning season (~Aug-Dec) likely occurred during average to below-average temperatures, the surface chlorophyll-a indicated low productivity (i.e. food) during the same period. The impact to larval scallops and recruitment are not known.

Observations

Observations are drawn from fishery stakeholder discussions at the AFMA resource assessment group (RAG) and management advisory committee (MAC) meetings. Further details are provided in meeting minutes on the AFMA website.

2026 Observations

- Some exceptional meat yields in 2025 TAS Scallop Fishery, but fishery also impacted by sea stars.
- Limited fishing occurred due to predation by large numbers of eleven-armed sea star.
- Difficult wind conditions observed in Bass Strait in 2025-2026 in the octopus fishery.
- Many primary industries in TAS running ~6 weeks behind schedule over summer (e.g. grapes, fisheries, aquaculture, farming).

2025 Observations

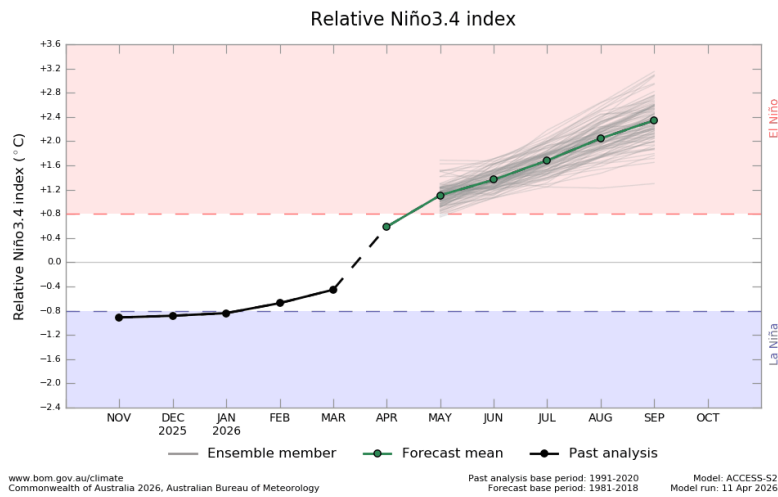
- Eleven-arm sea star seen in very high numbers. It is thought that high predation pressure is resulting in broadscale reduction in scallop numbers. A poor fishing season is anticipated.
- Survey biomass dropped by roughly one third since 2024.

2024 Observations

- Most catch in Bass Strait & off King Isl.
- Catch rates were high but meat quality declined from Oct-Dec.
- Some die-offs in western bass strait observed during the season.
- Anecdotal reports of meat quality recovering in Jan 2024.
- Some observations that cool waters, presumed to be nutrient rich, help meat quality recover quickly.
- Transparent shells noted.

Future Outlook

Climate Drivers: Niño3.4

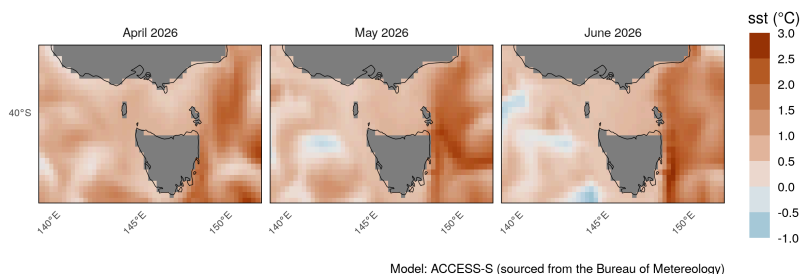


ENSO is currently neutral. All models forecast the tropical Pacific to continue warming in the coming months, with potential El Niño conditions by July (*BOM*)⁴.

Forecast values represent the oceanic component of ENSO events. Forecast values from May-Oct are higher than those seen during the development of the 2015/16 El Niño. Forecasts are updated regularly.

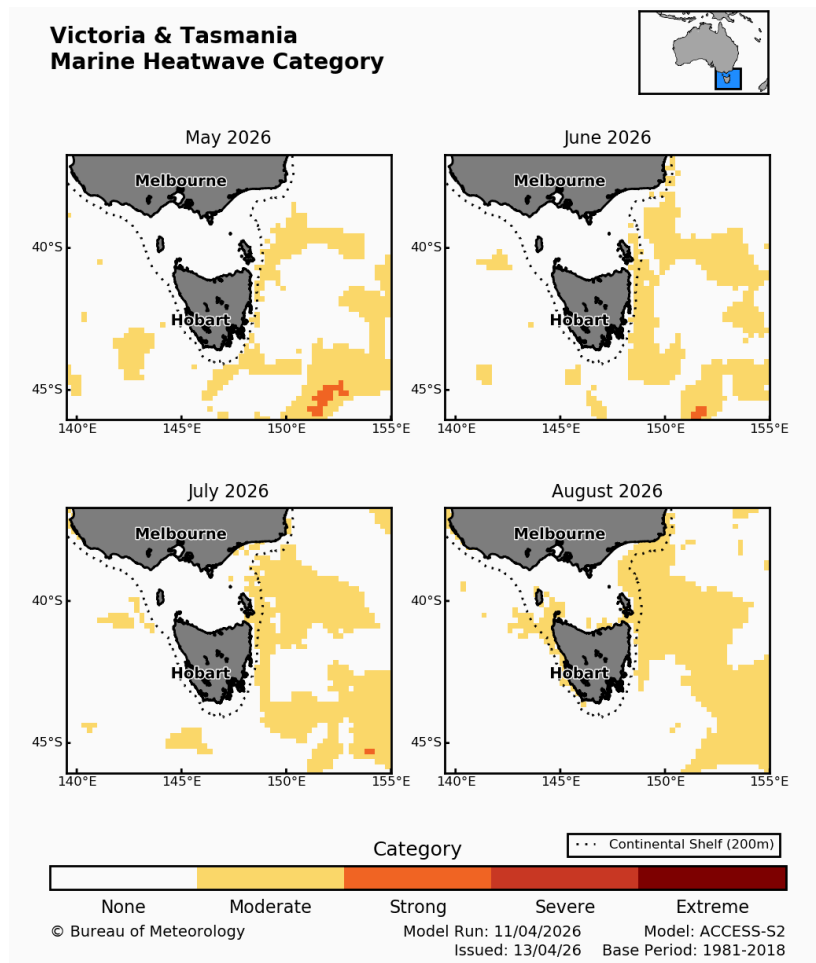
El Niño phases tend to have more frequent negative Southern Annular Mode (SAM) phases. These conditions shift westerly winds further north, and have been proposed to favour good scallop recruitment⁵. SAM can vary from weeks to months.

Regional Dynamics: SST Anomaly



Forecasts of SST anomalies for the next three months indicate anomalously warm conditions across the Bass Strait, with notable high anomalies in the eastern region (*BOM OceanT*)⁶. Forecasts are updated regularly.

Regional Dynamics: Marine Heatwave Forecast



BOM now produces forecasts of Marine Heatwaves (MHW). Moderate MHWs are forecast for waters in the eastern Bass Strait and off the east coast of Tasmania (*BOM OceanT*)⁶. Forecasts are updated regularly.

Marine Heatwaves during the scallop spawning season have potential to expose larvae to unsuitable temperatures.

Sources:

- (1) <https://pulse.climate.copernicus.eu/>.
- (2) <https://www.bom.gov.au/climate/enso/indices.shtml?bookmark=nino3.4>
- (3) Copernicus Marine Service.
- (4) <http://www.bom.gov.au/climate/ocean/outlooks/?index=nino34>
- (5) Harris et al., 1988. <https://doi.org/10.1038/333754a0>.
- (6) <http://www.bom.gov.au/oceanography/oceantemp/sst-outlook-map.shtml>.